

THREE NEW FROGS AND ONE NEW GECKO FROM THE PHILIPPINE ISLANDS.

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Dr. E. A. Mearns, U. S. Army, has recently returned from the Philippines with large collections, which he has generously placed at the disposal of the United States National Museum. Among the herpetological material, which contains many valuable additions of genera and species to our collection, and sheds considerable light on many obscure points relating to this part of the fauna of the islands, there are a few undescribed species which it has been thought desirable to define and name in advance of a general report on the collection.

RANA MEARNSI,^a new species.

Diagnosis.—Tip of digits developed into regular disks, those of the fingers very large; a narrow, glandular dorso-lateral fold; vomerine teeth behind the level of the choanae; interorbital space broader than upper eyelid; tympanum more than three-fourths the diameter of eye; first finger much shorter than second; tibio-tarsal articulation reaches considerably beyond the snout; a distinct tarsal fold; skin of belly and femur glandular.

Habitat.—Mindanao, Philippine Islands.

Type.—Cat. No. 35258, U.S.N.M.; Baganga River, East Coast Range Mountains, Mindanao; altitude between 1,000 and 5,000 feet; Dr. E. A. Mearns, collector; April 28 to May 7, 1904.

Description of type.—Vomerine teeth in two oblique groups, commencing on a line with the hinder edge of the choanae; head moderate, elongate, rather pointed, the snout considerably longer than the diameter of the orbit; nostrils near tip of snout, their distance from eye equaling the diameter of the latter; interorbital space broader than upper eyelid; canthus rostralis well marked; lores concave; tympanum very distinct, about five-sixths the diameter of the eye; fingers very

^a Named in honor of its discoverer, Dr. Edgar A. Mearns.

long, the length of the third finger, including the metacarpal bone, equals the length of the third toe from tarsal joint; fourth finger much longer than second, which is much longer than first; disks on second, third, and fourth fingers very large, pointed anteriorly, that on first finger much smaller, not larger than the disks of the toes; hind legs long, the tibio-tarsal articulation of the extended leg reaching considerably beyond the snout; length of tibia more than one-half the total length of head and body; toes nearly entirely webbed; disks well developed but small, about the size of those of first finger; a feeble inner metatarsal tubercle about one-fourth the length of the first toe; a slight indication only of an inner metatarsal tubercle; the sharp outer dermal edge of the fifth toe continued along the tarsus as a distinct fold; a distinct, but very narrow dorso-lateral glandular fold; no fold behind tympanum; skin smooth above, with a distinct patch of minute pointed pustules on the posterior two-thirds of the upper eyelid, and a similar one, with the pustules somewhat wider apart, above the tympanum; throat and breast smooth, but sides, belly, and posterior lower surface of femurs rather coarsely granular. Color (in alcohol) above uniform olive green; a very strongly contrasted narrow yellow stripe beginning on the tip of the snout, following the canthus rostralis, outer edge of upper eyelid and the whole length of the dorso-lateral fold to the groin; underneath this yellow band, on the snout and lores, a dark purplish-brown band, which widens behind the eye so as to include the whole tympanic region; whole edge of upper lip to behind angle of mouth yellowish; a narrow yellowish line, following a slight glandular fold on the outer lower edge of the forearm; a narrow yellowish line, sharply marking the outer dermal edge of the fifth toe and the tarsal fold to the heel; posterior aspect of femur obscurely dark purplish gray, sending upward a triangular projection to include the vent; below the latter, in the dark area, two sharply defined and strongly contrasting pale yellow round spots, one on each side of the middle line; indications of obscure, dusky crossbars on the hind limbs; lower surface uniform pale yellow.

Dimensions.

	mm.
Total length, tip of snout to vent.....	62
Width of head	19
Length of longest finger, including metacarpal	20
Femur, from vent to knee	32
Tibia	35
Length of hind foot from heel to tip of longest toe.....	46

Remarks.—The unique type is exceedingly brittle, so much so, in fact, that it has actually been broken in two, but is otherwise in excellent condition, and the characters are shown very distinctly. Doctor Mearns, on the trip across the East Coast Range unfortunately had no other fluid which he could use in preserving the few specimens he was

able to collect than some blackberry brandy. The colors of this specimen seem to have kept very well.

This new species appears to be nearly related to *Rana temporalis*. Several other species belonging to the same group have recently been described from other Philippine islands. From these it differs in several marked structural and color characters.

CORNUFER WORCESTERI,^a new species.

Diagnosis.—Disks of fingers well developed; tibio-tarsal articulation reaching the nostril; tongue without papilla; occiput flat; whole underside, including throat, granular; tympanum about one-half the width of the eye; first finger shorter than second.

Habitat.—Mindanao Island, Philippine Islands.

Type.—Cat. No. 34784, U.S.N.M.; Mount Apo, Mindanao; Dr. E. A. Mearns, collector.

Description of type specimen.—Vomerine teeth in two oblique series behind the level of the hinder edge of the choanæ; orbital diameter slightly less than distance of orbit from tip of snout; interorbital space considerably wider than upper eyelid; canthus rostralis rounded; lores concave; crown flat; tympanum nearly circular, about one-half the diameter of the eye; finger free, first considerably shorter than second, which is shorter than fourth; disks rather large; toes webbed at the base; disks well developed, though not quite so large as on the fingers; hind limb being carried forward, the tibio-tarsal joint does not reach the tip of the snout, only to about the nostrils; skin smooth above (possibly with some longitudinal folds, but that can not be decided on account of the state of the specimen), coarsely granular on the whole underside, including the throat; a distinct tubercle on the upper eyelid. Color above pale brownish gray with small, irregular dark brownish spots; snout decidedly brownish; a very distinct blackish brown band across the top of the head at the anterior end of the upper eyelids, involving them and continuing below the eye to the edge of the lip; tympanic region dark, but loreal region pale brown as the snout and without dark stripe; underside pale, finely dusted over with brownish; limbs with traces of dark cross bars.

Dimensions.

	mm.
Total length	28
Width of head.....	12
Length of fore limb.....	17
Length of hind limb from vent to tip of longest toe.....	45

Remarks.—The unique type specimen is in an indifferent state of preservation, but its many distinct characters make it imperative to recognize it as a new species.

^a Named in honor of Hon. Dean C. Worcester, secretary of the interior of the Philippine government.

In some respects it seems to come closest to *C. jagorii* of Peters, from Samar Island. It differs from it in many important respects. The disks of fingers and toes appear to be larger, those of the fingers being particularly large, though not quite so large as in *C. dorsalis* from Fiji; the webbing between the toes is also more extended, being fully as large as in the latter species; the hind legs are also shorter, and the skin of the upper parts is smooth, though whether there are longitudinal glandular folds on the back can not be decided on account of the condition of the specimen.

The coloration seems also to be characteristic, since no mention of the distinct frontal cross band is mentioned in the description of any other species of this genus.

PHILAUTUS^a WOODI,^b new species.

Diagnosis.—Fingers free; toes webbed at base only; tibio-tarsal articulation reaching beyond tip of snout; snout pointed, conical, projecting, longer than diameter of eye; skin shagreened above, coarsely granular below, even including the under surface of limbs and feet; tympanum scarcely distinguishable; a strong glandular fold from eye to shoulder; no dorso-lateral fold; disks of digits large.

Habitat.—Mindanao, Philippine Islands.

Type.—Cat. No. 34781, U.S.N.M.; Mount Apo, 6,000 feet altitude, Mindanao; June 30, 1904; Dr. E. A. Mearns, coll.

Description of type specimen.—Snout longer than diameter of eye, with a pointed conical projection forming a distinct "nose;" nostrils located nearer the tip of the snout than the eye; canthus rostralis sharp; lores very concave, the concavity continued forward beyond the nostrils; interorbital space wider than upper eyelid; tympanum scarcely distinguishable, apparently not larger than half the diameter of the eye; fingers free, first considerably shorter than second, which is to the same extent shorter than fourth; disks of fingers rounded, large, especially those of third and fourth fingers; toes webbed at base only; disks well developed, about the size of those of second finger; subarticular tubercles well developed; a small oval inner metatarsal tubercle, no outer; no tarsal fold; hind legs being carried forward along the body, the tibio-tarsal articulation reaches a considerable distance beyond the tip of the snout; skin finely shagreened above, coarsely granular on the entire lower surface, including the throat, underside of limbs, and even the hands and feet; a strong glandular

^a *Philautus* Gistel, Naturg. Thierr., 1848, p. x, must take the place of *Ixalus* Duméril and Bibron, 1841, which is preoccupied by Ogilby, 1836, for a genus of mammals.

^b Named in honor of Major-General Leonard Wood, U. S. Army, president of the Philippine Scientific Association.

fold from eye to shoulder; no dorso-lateral fold. Color (in formalin and transferred to alcohol) above dark chocolate brown, with a hair-fine pale line from tip of snout along the entire middle line of the body; snout from tip to a line across the middle of the upper eyelids pale cinnamon in strong contrast; a large dusky mark behind this pale area on the interorbital space and involving the upper eyelids, though visible only with difficulty on account of the dark color of the rest of the upper surface; whole loreal and temporal area dark brown, apparently a shade darker than the back; flanks, anterior and posterior aspects of thighs, underside of tibia and foot with a strong suffusion of a deep saturated burnt sienna; underside whitish with a number of irregular spots or patches of brown; a few irregular white spots on the sides of the body.

Dimensions.

	mm.
Total length from tip of snout to vent	29
Width of head	12.5
Fore limb.....	19
Hind limb, from vent to tip of longest toe	55

Variation.—A second individual (Cat. No. 34782, U.S.N.M.) from the same locality agrees with the above in all essential structural characters. It differs in color, however, in so far as the entire dorsal surface is of the same pale color as the prefrontal area, so that the sides are marked by a very broad dark brown band from the nostrils backward. The transverse dark frontal band consequently also stands out in strong contrast.

Remarks.—In some respects this new species resembles *Italus leitensis* of Boulenger, with which it is probably most nearly related. It differs in many points, however, especially in the long, acuminate, and projecting snout and the lesser extent of the webbing of the toes. The color is also different in many essentials.

The following species of the genus *Philautus* are now known from the Philippine Archipelago:

1. *Philautus schmackeri* (Boettger), from Mount Halcon, Mindoro.
2. *Philautus longicrus* (Boulenger), from Palawan.
3. *Philautus acutirostris* (Peters), from eastern Mindanao.
4. *Philautus bimaculatus* (Peters), from the upper course of Argusan River, Mindanao.
5. *Philautus leitensis* (Boulenger), from Leyte.
6. *Philautus mindorensis* (Boulenger), from Mount Dulangan, 5,000 feet altitude, Mindoro.
7. *Philautus woodi* Stejneger, from Mount Apo, Mindanao.

LEPIDODACTYLUS PLANICAUDUS, new species.

Diagnosis.—Closely allied to *Lepidodactylus lugubris*, but tail much more depressed, broader, less tapering, with a lateral flap-like free margin and less distinct verticillate arrangement of the caudal scales; digits wider in proportion to their length.

Habitat.—Mindanao, Philippine Islands.

Type.—Cat. No. 34746, U.S.N.M.; Mount Apo, Mindanao, between 4,000 and 6,000 feet altitude; Dr. E. A. Mearns, collector; June–July, 1904.

Remarks.—Peters has already described a *Lepidodactylus labialis* from Mindanao, which is also said to be closely allied to *L. lugubris*. It has, however, a "cylindrical tail," and differs from it, consequently, in just the opposite way of our new species. In the latter the tail is unusually depressed and instead of tapering gradually toward the tip, the edges are practically parallel for quite a distance and then tapering off much more quickly. Instead of the "sharpish" lateral edge of the Polynesian *L. lugubris*, our specimen has a lateral free margin edged with a series of nearly uniform small spines which show no definite verticillate arrangement. The digits are wider and clumsier, hence look shorter than in *L. lugubris*, and the laminae under the basal joints are better defined. There are 12 upper and 11 lower labials, much as in *L. lugubris*, consequently less than in *L. labialis*. The first series of slightly enlarged chin scales which join the mental and the anterior lower labials are rather smaller than the next row, while in *L. lugubris* the proportion is reversed, those nearest the mental being the largest.

Dimensions of type specimens.

	mm.
Total length	78
Tip of snout to vent	41.5
Vent to tip of tail (extreme end reproduced)	36.5